Reviewer's report

Title: No consensus on gestational diabetes mellitus screening regimes in Sweden. Pregnancy outcomes in relation to different screening regimes 2011 to 2012: a cross-sectional study

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Reviewer: Carlos Ortega González

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Reviewer comments:

This cross-sectional and population-based study, using data from the Maternal Health Care Registration Swedish (MHCR) (2011 and 2012) in combination with guidelines for screening GDM (2011-2012) in Maternal Health Care Study Areas (MHCA) in Sweden, show that, as the authors point out, currently there is no consensus for the diagnosis of GDM in that country.

One argument for this fact is the low prevalence of this disease among the native population of this country. However, the different ways of screening for gestational diabetes in each MHCA, seems to be the main problem.

Also, since there is currently no international consensus, clearly accepted for the diagnosis of GDM, various associations have attempted to establish its own criteria as the most suitable, thereby generating only more controversy.

I found in this manuscript, a series of major and minor deficiencies, which I believe should be corrected or clarified by the authors, before this work is considered for further review and possible publication in BMC Pregnancy and Childbirth.

Below, I establish a number of points which I would like the authors to review and modify or clarify, where it is required:

1. On page 5, reference # 22 is cited after the reference # 18 and before the references # 19, 20 and 21, so the order of citations in the text and references, should be modified.

2. On page 6, paragraph 5 it says ... "number of visits to antenatal care, use of professional interpreter at ANC visits in ..." I think that after antenatal care, there should be bracketed abbreviations of ANC, later mentioned in the same paragraph, since this can cause confusion to readers.

3. In the section Definitions of background and outcome variables, on page 8, paragraph 9, the cutoff values for the diagnosis of GDM in the MHCA are indicated. It is very important to indicate how the OGTT-2 h 75 g was performed,
and which is the criteria for interpreting the same in these MHCA, as apparently
the values indicated here correspond to 120 minutes glucose value. And here
comes to me the following question: Fasting glucose value and 60 minutes
glucose value during the OGTT are not considered important for the diagnosis of
GDM in Sweden? Also, if these values actually correspond to glucose value of
120 minutes during OGTT, it completely disagrees with the cutoff values set by
the World Health Organization (WHO) and the American Diabetes Association
(ADA) (8.5 mmol), which are worldwide used and accepted.

4. On the same page 8, paragraph 17 is mentioned ... "were Calculated using
Marsal's curve (25) (Table 2)." This statement does not correspond to Table 2.

5. Table 1 seems to me, very extensive and therefore, complex to understand as
there is plenty of information before and I got lost in the sea of data. Also, the
authors mention in the manuscript that in table 1 is shown: “...the prevalence of
GDM for each sub-category variable and is presented with a test of difference
between the categories of GDM and non-GDM as well as for the categories of
OGTT and non-OGTT...” but I could not find anywhere information regarding the
categories non-GDM and non-OGTT. I think a simpler and therefore easier way
to understand this information, is to separate the data into two tables, the first
one with the most relevant demographic data, expressed as mean + SD and
statistical significance for the three groups (subjects 2011, subject 2012 and total
subjects) and the second one, the variables and sub-variables for both
categories GDM and non-GDM and OGTT and non-OGTT, should be presented
in a suitable way.

6. On page 9, section: Four screening regimes for GDM in Sweden, it is
mentioned that between 2011 and 2012, four different schemes for the detection
of GDM were used: the first one was an universal screening and the other three
were selective, with different cutoff values at 2 hours during an OGTT.

The 2-hour OGTT is generally considered a diagnostic test for both
pre-gestational DM and for GDM.

Traditionally, the test known as glucose challenge test (GCT) has been used as a
screening test. This test consists of 50 grams of glucose administered orally and
measurement of serum glucose level one hour after. A glucose value + than 7.22
mmol (7.77 mmol or, for some others) is generally regarded as a positive test
and therefore liable to be corroborated with the diagnostic test (OGTT -2 h).

According to the authors, the OGTT was used as a screening test (universal or
selective) in different MHCA and the 2 hours cutoff value, was regarded as the
sole and sufficient evidence to establish the diagnosis of GDM, with three
different cutoff values, all of them very high relative to the cutoff value currently
accepted by WHO and ADA (8.9 , 10.0 and 12.2 mmol/L versus 8.5 mmol/L).

In this regard, I have three questions: 1) Does this make difficult to standardize
the diagnostic criteria for GDM in Sweden?; 2) Does this fact may influence
significantly in the very low prevalence of this disease in this country? and 3) Is
the reproducibility in other countries, and even within the same Swedish population adequate?

Now, if the authors really want to refer with the multi-quoted word "screnning" to a cutoff value diagnostic for GDM, then the results of this study should be rethought and perhaps in the end the authors would have to propose the adoption in their country of universally accepted criteria for the diagnosis of GDM, such as that proposed by the IADPSG and currently accepted by both the WHO and the ADA, which does not greatly affect the prevalence of GDM in their country, since as the authors themselves point out, this prevalence is now 1 to 2 %, which, multiplied by an impact factor of 1.1 to 2.8, in the worst case may increase the prevalence of GDM in 5.6%.